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Kant's Doctrine of Teleology

BY

ELIJAH EVERETT KRESGE

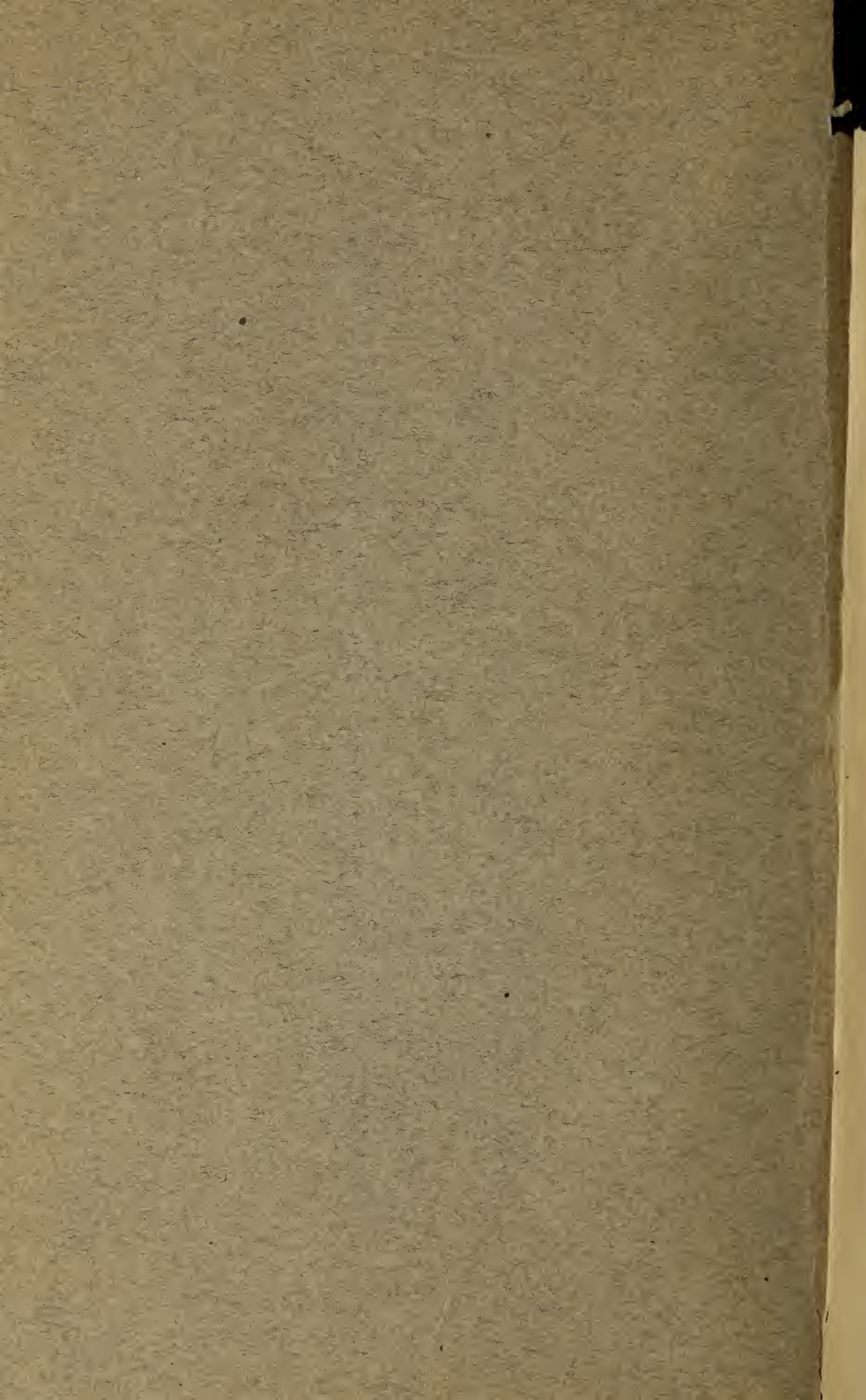
A DISSERTATION

PRESENTED TO THE FACULTY OF THE GRADUATE SCHOOL OF THE UNIVERSITY
OF PENNSYLVANIA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY.

(DEPARTMENT OF PHILOSOPHY)



THE FRANCIS  PRINTING CO.
ALLENTOWN, PA.
1914



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Gift
The University
FEB 4 1915

PREFACE.

Kant's Doctrine of Teleology was selected as the subject of this Dissertation partly because of my own interest in the problem, and partly because it is a phase of the Kantian philosophy that has been neglected by English students. The Critique of Judgment was introduced into France soon after its publication in Berlin, and was quite favorably received. In 1796 the entire work was translated into French by Imhoff. A revival of interest in art called forth a French version by Keratry and Weyland in 1823; and a third translation was made by Barni, in 1846. But the entire work was not made accessible to English readers until twenty years ago.

In English Commentaries on the Critical Philosophy very little space is devoted to the Critique of Judgment in comparison with the Critiques of Pure and Practical Reason, while scarcely anything is given on the second part of it, which deals directly with this problem. The most thorough discussion of the subject in any English work is that given by Caird in the second volume of his *Critical Philosophy of Kant*. There is also a very valuable Dissertation on *The Sources and Development of Kant's Doctrine of Teleology* by Professor J. H. Tufts, of the University of Chicago. The main object of Professor Tufts was to bring to the attention of English students some valuable historical material which at that time (1892) had just been published in Germany by Reicke, in the "Lose Blaetter aus Kant's Nachlass." The author shows some of the connecting links in teleological thinking, especially as it effected Kant; but he does not attempt to give an account of the doctrine itself as it is developed by Kant. For this reason I have made this Dissertation primarily an Exposition of the doctrine as elab-

orated by Kant in the second part of the Critique of Judgment, which is his special treatment of the problem and his final word on the subject.

In Part One I give a brief account of the place of the Critique of Judgment in Kant's system, setting forth, as I believe, the fact that the last Critique shaped itself in his mind gradually, through influences brought to bear upon him from without as well as through pressure from within his own system. In Part Two I give an exposition of the doctrine as elaborated by Kant himself. My exposition I based on Hartenstein's text. Because of the embarrassing mixture of the material and the fatiguing repetition of the same thought in slightly different language and in altogether different connections throughout the text, I thought it best to disregard the author's divisions altogether. The usual division into Analytic, Dialectic, etc., is due to a mere fancy of the author; and it confuses rather than aids the student. I have arranged the material under the three heads indicated in Part Two of the table of contents because this best expresses the real order of the development. I have selected and arranged the material so as to show *what* must be explained teleologically; *why* it must be thus explained; and the *validity* of such explanation. I have endeavored to give, as clearly as possible, Kant's own arguments, indicating the sections from which the arguments are taken. The references are to sections rather than to pages, because the sections are the same in all versions, German, French, or English, while the pages differ in the different versions. In Part Three I offer a few words by way of an appreciation and a criticism, showing how, in my judgment, Kant might have carried his assumptions to more positive conclusions.

My use of secondary sources I have indicated in the Bibliography and the notes. But I wish to express my special indebtedness to Professor Edgar A. Singer, and Professor Lewis W. Flaccus, of the University of Pennsylvania, under whom I pursued my studies of Kant; and also my gratitude to Professor William Romaine Newbold, of the department of Ancient Philosophy, who first inspired me with a love for philosophy.

E. E. KRESGE,

September, 1914.

Allentown, Pa.

PART ONE

THE PLACE OF THE CRITIQUE OF JUDGMENT IN
KANT'S SYSTEM.

THE PLACE OF THE CRITIQUE OF JUDGMENT IN KANT'S SYSTEM.

It is evident from what Kant himself says that the Critique of Judgment was not included in the original plan of his critical investigations. The idea of a third Critique was introduced gradually, but quite naturally, as the earnest little man advanced in his honest efforts after exact knowledge. In a letter written to Herz, in 1772, he gives the ground-plan of a work which he had in mind at that time. He says: "I am planning a work under the title: the limits of sensibility and reason. The work will consist of two parts: a theoretical and practical. The first falls into two sections: first phenomenology in general, and second, the nature and methods of metaphysics. The second likewise falls into two parts: first the general principles of (feeling) and desire, and second the foundations of morality."^a In this plan the Critiques of Pure and Practical Reason are clearly foreshadowed, but there is no evidence that Kant had in mind, at this early date, a third Critique.

In the Critiques of Pure and Practical Reason Kant felt, for the time being, that he had covered the whole field of philosophy that could be investigated by means of definite *a priori* principles. All other possible realms of investigation fall within the sphere of merely empirical and contingent principles, and must, therefore, be excluded from the legitimate scope of pure philosophy. Natural science and all technically practical rules derived therefrom are only corollaries to pure philosophy and must not be exalted into an equality with it. Up to the time of the publication of the first two Critiques Kant had recognized only two definite *a priori* laws or principles, viz., causation, by means of which the understanding legislates for nature, and freedom, by means of which reason legislates

^a Briefe, H. Vol. VIII.

for morality. All other rules are merely precepts and not universal laws or necessary principles.

A further evidence that the Critique of Judgment was not in the mind of Kant from the beginning is a note appended to the first edition of the Critique of Pure Reason, published in 1781, in which he criticises Baumgarten for his attempt to base a critical study of the Beautiful on principles of pure reason. Kant declares such an attempt to be fruitless, because the rules in question "are *purely empirical* and must not be taken for *a priori* principles by which our judgments of taste may be guided." It is quite clear from this statement that he recognizes only the two *a priori* principles of causation and freedom. But between the appearance of the first and second editions of the Critique of Pure Reason his views on this matter had undergone some modification. In the second edition, published in 1787, we find the confident phrase "are in their sources *purely empirical*," changed to the less positive form: "are in their main sources empirical." In a letter to Reinhold, written soon after the publication of the second edition of the Critique of Pure Reason, statements are made which indicate a complete change of view. In this letter he says that in his critical studies he has been led to recognize a new department of critical philosophy; and this new department is nothing other than the field which Baumgarten had investigated, and which Kant had criticised, six years before, as not belonging to pure philosophy. He says further, in this letter to Reinhold, that he has been led to recognize another kind of *a priori* principle different from those stated in the Critiques of Pure and Practical Reason. This new *a priori* principle is one legislating through the feelings.

It may not be possible to say with certainty by what means Kant was led on beyond the position taken in the first two Critiques. It is quite likely, however, that the factors in the case were twofold. There was an external and also an internal influence at work. He was influenced by the new interest awakened in the field of psychology, and also by the contradiction between the concept of nature and the concept of freedom as he himself had elaborated them.

The wave of individualism which spread over Europe after the middle of the Eighteenth Century produced a considerable amount of psychological literature in which the feelings were assigned an independent mental function and given a place along side of the intellect and the will. Baumgarten and Meyer, Sulzer and Mendelssohn, in their aesthetical studies, and Tetens, in his work on psychology, laid unusual emphasis upon the *pleasure-pain* faculty, and thus brought into prominence the feeling life, which philosophy had neglected since the days of Plato and Aristotle. Into this new field Kant entered with his keen analytical powers of mind. With Mendelssohn and Tetens he recognizes three separate mental faculties, viz., the faculty of knowledge, the feeling of pleasure and pain, and the will. But these men had failed to show that this feeling faculty legislates in any way *a priori* as Kant had previously shown the understanding and the will to do. And Kant himself, for a time, failed to see in what way this faculty legislates *a priori*. But while engaged in a Critique of Taste, he tells us, he discovered *a priori* principles for this faculty also, and thus has come to recognize three legitimate departments of pure philosophy, viz., Theoretic Philosophy, Practical Philosophy, and Teleology. In his correspondence with Reinhold he expresses the desire to devote his remaining days to the elucidation of the problems in this new field. The feelings, like the will, must be rescued from all empirical and contingent elements.

But there was also a potent influence from another source which urged Kant on beyond the results of the first two Critiques. He was led to the writing of the third Critique by a need which was left unsatisfied in his former works. There was a yawning gap between the concept of nature as established in the Critique of Pure Reason, and the concept of freedom as elaborated in the Critique of Practical Reason. There was wanting a satisfactory principle of mediation in the system.

The matter which first attracted his attention was the problem of pure knowledge, its conditions, its limitations, and its proper objects. This was the problem of the Critique of Pure Reason, where the conclusion was reached that nature as phe-

nomenon is the only object of which we can hope to acquire exact knowledge. But while wrestling with the problem of Pure Reason he recognized the fact that there is a field besides natural phenomena which must be included in a complete philosophy. A philosophy which aims at completeness must include the practical as well as the theoretical. That the practical was included in his original plan is clearly indicated in his letter to Herz. The subject matter of these two Critiques and the method of treatment was shaping itself in his mind from 1772 to the time of their publication a decade or so later.

But these two Critiques resulted in a sharp antithesis between the phenomenal and the noumenal, or between nature and freedom. There was a great gulf between the two distinct worlds treated in these two works. And man, as a creature with an understanding and a will, is a citizen of these two worlds. On the one hand he is under the law of necessity and on the other he is under the law of freedom. His knowledge is of phenomena connected by necessary laws; but he wills the good in freedom. His understanding is sensibly conditioned, but his will, as a faculty which gives the law to itself, is unconditioned. On the one hand he is conscious of himself as object and on the other as subject. Thus his consciousness, or the world within, becomes divided no less than the world without; and between this divided self there is, as yet, no satisfactory relation established. In these two Critiques Kant had separately emphasized the deduction of knowledge and of faith, of the speculative and the practical consciousness, until the unity of consciousness itself was lost.

To say, as some have done, that Kant was not aware of this contradiction in his system is to disregard his own words, for a statement made in the Introduction to the Critique of Judgment clearly shows the province and function of each of the former Critiques, and also the contradictory character of the principles which they elaborate. He says: "The understanding legislates *a priori* for nature as an object of sense: Reason legislates *a priori* for freedom and its peculiar causality. The realm of the natural concept under the one legisla-

tion, and that of the concept of freedom under the other are entirely removed from all mutual influence. The concept of freedom determines nothing in respect of the theoretical cognition of nature; and the natural concept determines nothing in respect of the practical laws of freedom. So far then it is not possible to throw a bridge from the one realm to the other."^a Legislation by the understanding is valid only for cognition; and legislation by the reason is valid only for the will. The province of the one is nature; and the province of the other is morality and the religious life.

But this, as Hegel has pointed out, would degrade freedom into an abstract, barren, contentless non-entity. To save freedom from this degradation it must in some way be made to realize itself in the world of sense. There must be a possible relation between nature and freedom. And Kant was well aware of this for he says: "Now although an immeasurable gulf is thus fixed between the realm of nature and the realm of freedom so that no transition from the first to the second is possible, yet the second is meant to have an influence upon the first. The concept of freedom is meant to realize in the world of sense the purpose proposed by its laws, and consequently nature must be so thought that the conformity of its form, at least harmonizes with the possibility of the purpose to be effected in it according to the laws of freedom."^b In the second part of the Critique of Practical Reason the gap which is opened in the Analytic is bridged over by the concept of freedom reaching down out of its supersensible realm and actualizing in the world of sense the purpose proposed by its laws. Thus nature and freedom are connected in a purely practical way.

But this strained and formal way of effecting a union between nature and freedom in the Dialectic of the Practical Reason does not solve the problem. The consciousness is still divided. There is still no bridge over the gap which divides our consciousness of self as object and self as subject. Kant

^a Intro. to the Critique of Judgment, section IX.

^b Intro to the Critique of Judgment, section II.

was aware of the need of a more positive mediating principle to bridge over the gulf and unite the divided inner world. And the consciousness of this need, together with the discoveries made in his studies of the feelings, led him to write the third Critique which becomes the coping stone of his critical arch.

Bosenquet clearly indicates the place and function of the Critique of Judgment in the following concise words: "In his life-long labors for the reorganization of philosophy, Kant may be said to have aimed at three cardinal points. First, he desired to justify the conception of a natural order; secondly, the conception of a moral order; and thirdly, the conception of the compatibility between the natural and the moral order. The first of these problems formed the substance of the Critique of Pure Reason; the second was treated in the Critique of Practical Reason; and the third necessarily arose out of the relation between the other two. * * * And although the formal compatibility of nature and freedom had been established by Kant, as he believed, in the negative demarcation between that which the first two Critiques expounded, it was inevitable that he should subsequently be led on to suggest some more positive combination. This attempt was made in the Critique of the Powers of Judgment."^a

It is quite evident that the results of the Critiques of Pure and Practical Reason left the need of a more positive combination of the concept of nature and freedom than the mere formal one declared in the Dialectic of the Practical Reason. This more positive combination he ultimately finds in the new phase of the principle of design as elaborated in the Critique of Judgment. In his critical study of the feelings, to which he was attracted by the newly awakened interest in psychology, he discovers the *a priori* principle of design by means of which, first in a mere formal way, and afterwards also in an objective way, he brings about a union between sense and understanding, and between nature and freedom, in a theoretic way and thus in advance of the purely practical

^a History of Aesthetics, p. 256.

point of view in the second Critique. It is by means of the feelings that we first discover a harmony between our consciousness of objects and our consciousness of self. It is by means of the feelings also that we first discover a harmony between the different powers which divide the phenomena of self consciousness from each other. "We can *feel* what we can neither *know* nor *will*." We *feel* a union between ourselves as object and subject the hidden ground of which the understanding cannot fathom. If then we wish to find the unity of our self-consciousness, or the unity of the two worlds of our experience, in a theoretic way different from the pure practical point of view established in the Critique of Practical Reason, it is clear that we must carry our critical investigations into this realm of the feelings. This is the position Kant had come to at the time that he was writing to Reinhold. Thus he was gradually, but quite naturally, led to the critical study of the feelings, the psychological faculty intermediate between knowing and willing, to which the judgment, as the middle term between understanding and reason, corresponds. The correspondence between the intermediating function of the judgment and the intermediating function of the feelings is what led him to give the name Critique of Judgment to his last great work.

Although we may feel that Kant's deduction of design as an *a priori* principle of judgment is superficial, he was nevertheless sincere in his conviction that the judgment has an *a priori* principle by means of which it legislates in a certain territory of our critical investigations. As freedom is an *a priori* principle of reason as an automatic mental faculty, so the idea of design, or purposiveness, is an *a priori* principle of the judgment as an automatic mental faculty. "Judgment in general is the faculty of thinking the particular as contained under the universal. If the universal (the rule, the principle, the law) be given, the judgment which subsumes the particular under it is determinant. But if only the particular is given for which a universal must be found, the judgment is only reflective."^a

^a Intro. to the Critique of Judgment, sec. IV.

Now the judgment as reflective has the autonomy like reason to give to itself the principle under which the discordant particulars of our experience may be subsumed. And it is just this task of finding a universal under which the manifold particulars of our experience must be subordinated that becomes the real problem of this new department of philosophy. A universal must be found under which the manifold particulars of our experience must be viewed, or nature cannot be made intelligible to ourselves. A principle must be found by means of which nature can be reduced to the unity of our intelligence. And since the particular forms of nature, for which a universal must be found, are so manifold and so varied, the reflective judgment, which must ascend from these particulars of our experience to the universal in nature, requires, on this account, a principle which it cannot borrow from experience, and hence to establish the possibility of a systematic subordination of these varied particulars, under a universal intelligible to ourselves, the judgment as reflective, must give a law from and to itself; and this principle or law can be none other than that of design. } "Since no use of the cognitive faculties can be permitted without principles, the reflective judgment must, in such cases, serve as a principle to itself."^a By the aid of this principle nature is regarded by us as if its particular laws were not isolated and disparate, but connected and in relation, deriving their unity under seeming diversity from an Intelligence which is at the source of nature. It is only by the assumption of such a principle that we can make nature, in certain of its aspects, intelligible to ourselves. The task of the teleological judgment then is to trace the nature of reason beyond its own use in metaphysics into the general principles of systematizing a history of nature. We must view nature as if it were designed for our understanding.

This design, or purposiveness, however, may be merely *formal* and *subjective*, or *objective* and *real*. In some cases the purposiveness resides only in the felt harmony of the form of

^a C. of J., sec. 69.

the object with our cognitive faculties. In the case of a beautiful object, for example, we judge the form of the object to be purposive in relation to our perception of it, but cannot discover any purposiveness that is served by the object. In this case the purposiveness is only *formal* and not *real*. It is purposive only in reference to us as subject. We are not permitted to say, in this case, that nature is purposive, but only that nature awakens in us the harmonious play of our faculties and we then *feel* the purposiveness. It is a "purposiveness without purpose." In some other cases, however, in an organism for example, the form of the object is judged to harmonize with a purpose in view of its existence. In this case we judge that the existence and the form of the object are adapted to an end. We judge the object to be purposive because of its internal form, and not merely because of the relation of its form to our perception of it. This kind of purposiveness is *objective* and *real*. In the former kind of purposiveness we employ the aesthetic judgment; i. e., we immediately *feel* a harmony between the form of the object and our cognitive faculties. The sense of the beautiful is this feeling of harmony between ourselves and objects. In the latter case we employ the teleological judgment; i. e., we judge that the object is an end in itself apart from our cognition of it. The Critique of Judgment, therefore, is divided into Two Parts: I, The Critique of Taste, or the Philosophy of the Beautiful and the sublime; and II, The Critique of Teleology, or the Application of the Idea of Design to Nature.

But it is again quite evident that the whole of the Critique of Judgment in this two-fold division in which we now have it was not within the scope of Kant's plan when he wrote to Reinhold saying that he was engaged on a new Critique. His psychological interest in the feelings, which had been neglected in his former works, led him to a critical study of Taste. But a Critique of Taste was all that he had in mind at this time. It was while engaged on this Critique of Taste that he discovered the idea of purposiveness (in the formal sense noted above) and its *a priori* character. In our cognition of an ob-

ject there is always felt a discord between ourselves and the object. There is something in the object which evades our cognitive faculties as though it were not meant for us; and this is painful. The result is a feeling of dualism between ourselves and nature. In the Practical Reason, likewise, we never get beyond the negative character of feeling. The effect of the ideal consciousness upon feeling is always in the first instance negative. "Moral feeling is the shrinking awe of nature before spirit." "Before the moral law our mortal nature doth tremble like a guilty thing surprised." It is in the purely aesthetic feelings that we, for the first time, get beyond this negative aspect to a higher positive. In the perception of a beautiful object there is immediately felt a harmony between ourselves and the object, and this feeling is one of pleasure. In our sense of the beautiful the spirit greets the object and the object readily responds. At this point he discovers, for the first time, a reason to postulate a union between the phenomenal and the noumenal. In the feeling of pleasure in the perception of the Beautiful he discovers the needed principle of mediation between the sensible and the intelligible. It is true that the category of time, in a sense, mediates between the sensible and the intelligible. Already in the Transcendental Aesthetic and Analytic the question arose as to how reason could act upon the data of sensibility. By what means does reason lay hold of sensible intuitions and make notions of them? Time, which is half intuition and half category, serves as the natural intermediary between sensible intuitions and concepts. But this schematism is strained and lacks the spontaneity and immediateness which we feel in the perception of the Beautiful. The chasm between sense and understanding remains in spite of the mediating function of time. But our experience of an object of beauty is of such a nature that we *must feel*, or judge, the object as if it were intended for us. The feeling of foreignness or remoteness, which we experience in the cognition of objects, vanishes. This then is the deduction of this new phase of purposiveness. But this *felt* purposiveness is only *formal* and *subjective*. There is no purpose in the object

that we can discover,—nothing that the object serves. It is purposive only in reference to our perception of it. This Critique of Taste, or Philosophy of the Beautiful, is all that Kant had in mind at the time he wrote to Reinhold in 1788-89.

Stadler, in his excellent work on *Kant's Teleologie*, thinks that Kant might well have ended his critical investigations at this point. In fact Stadler intimates that he would better have ended his critical labors here, because the second part of the Critique of Judgment adds nothing to the value of his system as a whole. Most of us, no doubt, disagree with Stadler on this point; but regardless of whether or not Kant should have stopped here, there are two reasons why he did not. There was again something within his system and again a pressure from without that was urging him on to the further application of this newly discovered principle.

About the time that he was writing to Reinhold, setting forth the plans of his Critique of Taste, there appeared a rather severe criticism by Forster on the use of the teleologic principle in Kant's former works. This criticism called forth a treatise by Kant on: *The Need of the Teleological Principle in Philosophy*. In this treatise he reiterates that everything in natural science must be explained mechanically, but points out that this very principle implies its own limitation in that it requires that we use only such grounds of explanation as can be verified by experience. If things that we cannot experience as, for example, certain characteristics of organisms, or nature as a whole, are to be explained at all we must admit some principle that will supplement mechanism. This reply to Forster points the way beyond the mere formal application of the idea of design in the realm of the Beautiful.

But there was also something in the very nature of this formal purposiveness, which he had discovered, that led him on to make still further use of it. Caird has well said: "As soon as he had admitted that the consciousness of an object, even in subjective feeling, can be positively connected with our ideal consciousness, and so with the pure consciousness of self, he was naturally led to reconsider his whole theory of the con-

nection of the consciousness of an object with the consciousness of self as stated in the Critique of Pure Reason."^a He was now led to consider the connection of nature and freedom in a theoretic way, and thus in advance of the purely practical point of view in the Critique of Practical Reason, or the mere formal presentation of it in the Critique of Taste. From the feeling of the union of the object with the subject in our sense of the Beautiful he passes on to the thinking of it, or to the conscious recognition of the two as united in one principle. This led him quite naturally to the application of the teleological judgment to objects themselves. Hence when the book appeared, three years after he had written to Reinhold, it was not merely a Critique of Taste, but a Critique of the powers of Judgment in the subjective and objective sense noted above.

^a The Critical Philosophy of Kant, Vol. II, p. 514.

PART TWO

EXPOSITION

of

KANT'S DOCTRINE OF TELEOLGY

BASED ON THE TEXT OF

THE CRITIQUE OF JUDGMENT: PART II.

I.

THE THINGS THAT MUST BE EXPLAINED TELEOLOGICALLY.

In the First Part of the Critique of Judgment we learn that certain objects of nature, for example, objects of beauty, are judged to be purposive. We judge the object as if it were designed for us because we feel a pleasurable agreement between ourselves and this particular kind of object. But we cannot discover any real purpose which this kind of object serves in itself. We are therefore compelled to judge beautiful objects as purposive only in reference to our perceptive faculties. The purpose is not in the object itself, but in the relation of its form to the subject who perceives it. We may not say that the object is designed with the idea of beauty as an end. We can only say that we feel that kind of agreement between ourselves and the object which we would feel if it were really designed for us. This kind of purposiveness is, therefore, purely subjective and will not warrant the application of design in a real sense.

The fundamental question of the Second Part of the Critique of Judgment is: what kind of object, or what kind of experience, will legitimately give occasion for the application of a purposiveness which is not subjective, but objective and real. Before we can answer this question we must distinguish, on the one hand, between an objective purposiveness which is merely formal and that which is material; and on the other, between that which is only relative and hypothetical and that which is internal and real.

Objective Purposiveness Which Is Merely Formal as Dis-

tinguished from That Which is Material. (Section 62.) In mathematics we find a purposiveness which is obviously objective and intellectual, and not merely subjective and aesthetical. "All geometrical figures drawn on a principle display a manifold purposiveness in reference to their usefulness for the solution of many problems from a single principle." * * * "In so simple a figure as the circle lies the key to the solution of a multitude of problems." But to admire such objective use, or usefulness, as a real purpose of nature would be fanaticism. The use to which we put such figures, and the rules and principles drawn from them for purposes of utility has nothing to do whatever with the inner grounds and nature of these figures themselves. The circle or any geometrical figure is a concept which is determined by means of the understanding according to the principles of the understanding. "In the figure which I draw in conformity with a concept, i. e., in my own mode of representing that which is given to me externally, whatever it may be in itself, it is I that introduce the purposiveness; I get no empirical instructions from the object about the purposiveness, and so I require in it no particular purpose external to myself." In this case there is a reference to our cognition which is not the case in our mere perception of a beautiful object, but there is obviously nothing in the object itself that would warrant the application of design in a material sense. The adaptation of these mathematical figures and their problems to our cognition, and the intellectual satisfaction that we derive therefrom is no indication of a real adaptation, but must be explained by the fact that such figures are constructions in space which is the one *a priori* form of external perception. We have not, in this matter, a material adaptation of things independent of us, but merely the formal adaptation which of necessity belongs to things that are perceived by us.

Relative Purposiveness as Distinguished from Inner Purposiveness. (Section 63, cf. section 67.) By relative, or external purposiveness, is meant that by which one thing in nature serves another as means to an end; or where one thing in na-

ture is useful to another thing in nature. Thus, for example, soil is useful for grass, and grass is useful for animals, and animals are useful for man. The question then is whether these external relations are to be judged as purposes of nature; more especially since they contain profit for man. We must not be deceived by that lazy teleology which assigns a real purposiveness to these external relations which are all brought about by the mere mechanical operations of nature. Even things which in themselves must be viewed as purposes of nature are, in their relation to other things, only so much raw material. Only under the assumed condition that something, man for example, is to live upon the earth can we judge the things which are necessary for his life to be natural purposes. "We can hence easily see that an external purpose can be regarded as an external natural purpose only under the condition that the existence of this being to which it is immediately and directly advantageous is itself a purpose of nature." But "since this can never be completely determined by mere contemplation of nature, it follows that relative purposiveness, although it hypothetically gives indications of natural purposes, yet justifies no determinate teleological judgment."^a

The First Objects of Our Experience Which Require Teleological Explanation. (Sections 64, 65 and 66.) What kind of objects then will call for the application of the idea of design as a necessary principle of explanation? To warrant our departure from the mechanical explanation of things we must find a product of nature whose form is not possible according to mere natural laws; a product of nature whose form, in view of all the known laws of nature, is accidental, i. e., though a product of nature and thus, in a sense, subject to the laws of nature, is yet wholly inexplicable by means of these laws. Such an object, by its very nature, presupposes conditions of reason as the only ground of its explanation. "For, where the knowledge of all the natural laws that determine an object leaves its form unexplained and therefore accidental,

^a Section 63.

then reason, which must regard every form of a product of nature as necessary, in order to the comprehension even of the conditions of its genesis, is driven by the absence of natural necessity to regard the object as if it were possible only through the causality of reason itself, i. e., the causality is then referred to the faculty of acting in accordance with purposes, or with a will."^a

Now organisms, whether of the vegetable or the animal kingdom, manifest the enigmatical characteristics (from the standpoint of the understanding) described above. They are products of nature and thus subject to the law of necessity by which alone the understanding can explain them, and experience of them become possible. Yet in view of these laws they are accidental, and, therefore, inexplicable by means of them. In the case of an object of mechanical causation we have a whole arising from the action and reaction of parts prior to the whole. But we cannot thus account for an organic object, for here the whole is not the effect of parts which are prior to it. An organism is both cause and effect of itself. It produces itself from within. It has the ground of its existence and perpetuation in itself, and is only partially conditioned by its environment. It is a process in which means are used for a specific end. It is a process in which the whole depends upon all the parts and the several parts depend upon the whole;—where the beginning anticipates the end and the end presupposes the beginning.

Let us take an example. A tree generates another tree according to a known natural law. But the tree produced is of the same genus, and so it produces itself *generically*. On the one hand, as effect, it is constantly self-produced; on the other hand, as cause it constantly produces itself, and so perpetuates itself *generically*. And, secondly, a tree perpetuates itself as an *individual*. It takes from its environment, from the air, and the soil, crude matter which is foreign to itself, and by a process unlike anything found anywhere in the inorganic world

^a Section 64.

or in art, organizes it into its own peculiar life. And, thirdly, a tree perpetuates itself in such a way that each part depends *reciprocally* upon all the other parts. Thus the foliage depends upon the tree and the tree, in turn, upon the foliage. There can be no foliage without a tree and no tree without a foliage. "In an organized product of nature every part is reciprocally end and means."^a

It must be observed furthermore that while an organism differs essentially, on the one hand, from inorganic nature, it also differs essentially, on the other hand, from the products of human art. It is like a product of art in this respect: that every part exists for the sake of the other parts; but it differs from a product of art in that its parts are all organs reciprocally producing each other. "In a watch, for example, one part is the instrument for moving the other parts, but the wheel is not the effective cause of the production of other wheels; no doubt one part is for the sake of the others, but it does not exist by their means. In this case the producing cause of the parts and of their forms is not contained in the nature of the material, but is external to it in a being who can produce effects according to ideas. Hence a watch-wheel does not produce other wheels, still less does one watch produce other watches, utilizing foreign material for this purpose; hence it does not repair of itself parts of which it has been deprived, nor does it make good for what was lacking in a first production by the addition of missing parts, nor even if it has gone out of order does it repair itself,—all of which, on the contrary, we may expect from organized nature."^b An organized being then, which is to be judged in itself and in its internal possibilities as a natural purpose, is one where all the parts depend upon each other both as to their form and their combination, and so produces a whole by its own causality.

We have, therefore, a kind of causality the exact likeness of which we do not find anywhere else either in the inorganic

^a Section 64.

^b Section 65.

world or in the field of human art. It is unlike anything known by the understanding, for "causal combination as thought merely by the understanding is a connection constituting an ever progressive series." According to the principles of the understanding we can have only a linear series which is always directed forwards from the cause to the effect, but is never known to return upon itself in such a way that the effect in the series becomes reciprocally the cause of its cause. But in an organism we have just this enigmatical reversal in the series where the effect viewed one way becomes the cause in the series viewed another way. We have here a fact, therefore, which corresponds to nothing in nature as known by the understanding.

How then shall we explain this enigmatical fact? It cannot be explained according to principles of the understanding because, as we have just seen, the understanding knows the things of nature only by means of the universal category of cause and effect progressing in a linear series. The judgment as an instrument of the understanding, subsumes the particular experience only under the general principles given to it by the understanding. But an organism whose causality works from both ends of the series is, in view of the law of causal combination as known by the understanding, accidental, and therefore cannot be explained mechanically. Neither can it be explained without some important reservations, either after the analogy of art or of life; for "we say of nature and its faculty far too little if we describe it as an analogon of art, for in the products of art the artificer is external to the product, while an organism produces itself." * * * "We do better if we describe it after the analogy of life."^a But even then we find ourselves between the charybdis of hylozoism, which assigns life to matter, which we know to be in its very nature inert and lifeless; and the scylla of a dualism which places a soul external to matter as an organizing power. In this latter case we either make matter an instrument of a something which itself remains

^a Section 65.

unexplained, or else, if we make the soul an artificer external to matter, we remove the product from nature thus placing it beyond the bounds of knowledge altogether. The organic object, therefore, stands as a sort of middle term between nature and art which, because it cannot be reduced to either the one or the other, cannot be explained at all by the categories of the understanding.

There is only one realm of possible causal explanation left to which we can appeal. This peculiar causation which we have discovered in organic nature corresponds to a causal combination that can be thought according to a concept of reason. By a concept of reason a causal combination can be thought which, regarded as a series, would lead either forward or backward. In such a series the thing that has been regarded as the effect may with equal propriety be regarded as the cause of that of which it is the effect. For example, a house, no doubt, is the cause of the money received for rent; but also conversely the idea of this possible income is the cause of the building of the house. Here we have the idea of a final cause, or an end set by reason, putting into operation the efficient causes. It is only by means of such a concept of reason that we can satisfactorily judge of the enigmatical characteristics of organized beings. "The closest analogon to the causality which we find in the organic products of nature is that which reveals itself in the organization of human society."

In organized nature then we find the first thing that must be explained teleologically if it is to be explained at all. "It is absurd to hope that another Newton will arise in the future who shall make comprehensible to us the production of a blade of grass according to natural laws which no design has ordered. We must absolutely deny this insight to men."^a Organized beings first afford objective reality to the concept of a purpose of nature, and so gives to the science of nature

^a Section 75.

the basis for a teleology; i. e., a mode of judgment about natural objects according to a special principle different from mechanism. *a*

In What Sense Collective Nature Must Be Considered as a System Under the Rule of Purposes. (Sections 67, 82, 83, 84, 86, 87 and 88; cf. also 63.) When we explain an organism as the product of a design which must ultimately be rooted in Intelligence we thereby raise the question: *What is this thing for?* And when we consider the relation of such an organism to its environment or to other things in nature, we raise the question of a final end of nature. What in nature, if anything, must be viewed as its final end, or purpose, to which we must subordinate nature and her products as means? In other words: *For what purpose are all these things of nature?*

There is only one thing in nature which of itself answers the question what it is for. "This is the organization of both sexes in their mutual relation for the propagation of their kind, since here we can always ask, as in the case of an individual, why must such a pair exist. The answer is: this pair first constitutes an organizing whole, though not an organized whole in a single body." (Section 82.) Beyond this nature gives us no answer as to the final end or purpose of her existence, or of anything that she produces. Nature, viewed merely as nature, has even no ultimate or last end. We are accustomed to consider man as the ultimate or last end of nature; but we do this because man is the only being who has the power to form a concept of an end, and who, by means of his superior intelligence, uses other things as means to himself. Thus we are inclined to say that grass grows for the animal, and that the animal exists for man, without observing that we judge of the matter

a The idea of final causation is used as a key to the order of the accidental in nature. While it operates by means of mechanical laws, it yet expresses a higher necessity and thus gives to these objects a unity which, according to mere mechanical laws they could not have. But the use of this principle, as we shall see in the next section, enables the understanding to lay the law not to nature, but only to itself.

in this way only because man has been using these things for himself. Nature herself does not treat man as her ultimate end. He is only one link in nature's endless series of links. Nature treats man precisely as she treats her other products. "Nature has not in the least exempted him from its productive or its destructive powers, but has subjected everything to a mechanism of its own without any purpose."^a If we begin with man's existence as an end that ought to be we can legitimately reason backwards and say that the animal exists for him to use, and that the vegetable exists for the sake of the animal, and the soil for the sake of the vegetable. But if we begin with the things that are given in our experience we find nothing that would warrant us to reason forward to man's existence as an end that nature has in view. We might even, with Linnaeus, reason in the opposite direction, and say that man exists to put a check upon the carnivorous animals, and that the carnivora exist to check the over-multiplication of the herbivora, and that the herbivora exist to check the too luxuriant growth of vegetables. Man thus becomes a means instead of an end. There is nothing in nature herself that would warrant our reasoning either one way or the other. If man's mere existence were an end that nature has in view then at least the soil which gives him birth and nurtures him would have to be designed for this specific purpose. But the archeology of nature reveals nothing but a quite undesigned mechanism which does not regard one thing in nature more than any other. There is nothing in nature, therefore, that would warrant us to consider man's mere existence as the ultimate end of nature. Viewed simply as a product of nature he is only one of the steps of a process whose end we do not know.

But, in spite of the fact that nature herself does not treat man as her final end, we are nevertheless compelled to look to man as the only creature who can be a final end if there is any final end at all. There is still another point of view from which we may consider the problem. Man is the only being who can

^a Section 82.

propose ends to himself; and may not nature be purposively related to an end which he proposes to himself as final? In this case we must determine "what nature can supply to prepare him for what he must do himself in order to be a final purpose."^a There are at least three things which man has proposed as final end for himself. These are: *Happiness*; *Culture*, or the perfection of his powers; and the *Moral Law*, or Duty.

It is quite evident, however, that nature cannot be viewed as purposive in reference to man's happiness, for "the concept of happiness is not one that man derives by abstraction from his instincts and so deduces from his animal nature; but it is a mere idea of a state that he wants to make adequate to the idea under merely empirical conditions." But this is plainly impossible for three reasons. (1) "Man projects his idea of happiness in such different ways on account of the complications of his understanding with imagination and sense, and changes so often, that nature, if it were entirely subjected to his elective will, could receive absolutely no determinate, universal, and fixed law, so as to harmonize with this vascillating concept and thus with the purpose which each man arbitrarily sets before himself."^b Happiness is too vague an idea to determine man's efforts. And nature cannot be viewed under any universal principles of reason to harmonize with so vague and changeful an end as happiness sets before us. And (2), if we could reduce the idea of happiness to a few elemental wants in regard to which we all agree, and if we would suppose man's power to attain his ends to be indefinitely increased, we could still not suppose it possible that this ultimate natural end could be attained by him; for "he is not so constituted as to rest and be satisfied in any possession or enjoyment whatever."^c And in the (3) place our experience shows us that nature is altogether indifferent to man's happiness. "Nature has not taken him for her special darling and favored him with special benefits above all animals. Rather, in her destructive operations,—plagues, hunger, perils of waters, frosts, assaults of animals,—

^a Section 83.

^b Section 83.

^c Section 83.

in these things she has spared him as little as any other animal."^a And even if nature would treat him with special favor in reference to his happiness his own passions and war-like propensities would spoil her work. "The value of life if estimated by what we can enjoy is easy to decide. * * * It sinks below zero."^b If then we look to happiness as an end which man sets for himself as final we are obliged to judge nature to be out of harmony with it. We cannot hope to receive any aid from nature in the attainment of this end.

When we consider nature in relation to culture, i. e., the perfection of our powers and the taming of our passions, we have more hope of a satisfactory solution of the problem. Nature which is unfriendly, or at best indifferent to man's happiness, contributes, at least in an indirect way, to the culture of his passions and the exercise of his skill.) The very conflict between men of different degrees of culture and skill becomes a stimulus to the education of their powers, and in the end, the very misery incurred by the conflict will mean the development of the latent capacities of the human race. The drudgery of some makes possible the leisure of others in which the skill of the latter is developed. But the skill thus developed and that which this skill accomplishes, in the long run, returns again to those whose drudgery makes such leisure for others possible. "Even war may be a deep hidden and (perhaps) designed enterprise of supreme wisdom for preparing men (through the function of the State) for conformity to law. In spite of the dreadful afflictions which it casts upon the human race it is yet a means for developing all the latent talents servicable for the culture of the race."^c It is true that the refinement of taste pushed to idealization, and the luxury of science as affording food for pride, arouses a number of insatiable animal inclinations. Yet we cannot mistake the purpose of nature to win us away from the rudeness and violence of these inclinations which belong to our animality, and to make way for the development of our

^a Section 83.

^b Note to Section 83.

^c Section 83.

humanity. The beautiful arts and sciences win us in large measure from the tyranny of sense propensions, and thus prepare us for the lordship in which reason alone shall have authority. But there is plainly also a limit to nature's ability to help us directly or indirectly when the culture of our powers and our passions is viewed as the final end of our existence and purpose on earth. In spite of all that nature can do towards the cultivating of our powers and the taming of our passions there is a sense in which it fails to satisfy our sensuous desires. It is at this point that we are made to feel an aptitude for higher purposes which lie hidden in us.

We are thus pointed, by this inner aptitude for something which nature cannot supply, or for which it cannot prepare us, to something beyond nature as the final end which we must ascribe to the existence of the world. "There remains then nothing but the value which we ourselves give our life, * * * through what we do purposively in such independence of nature that the existence of nature itself can only be a purpose under this condition."^a It is only as we view man as he represents himself as an absolutely unconditioned end to himself (which is not the case in the proposed ends of happiness and culture) that we are obliged to regard him as an end to other things. Man as a noumenon, man as a pure moral agent, is an end which is good in itself, and not only good for something else. It is man then as a pure moral being,—man under moral laws, laws which he himself gives to himself categorically, who must be viewed as the final end of the world. As a being under moral laws, which he himself gives to himself, he is an end to himself without the need of anything further as the condition of its possibility. Here he ceases to be a contingent being. As the unconditioned cause of the moral obligation imposed upon himself he is an end to himself and at the same time also obliged to consider himself as an end to all nature. And nature which is unfriendly to man's happiness is consistent with this moral

^a Note to section 83.

end which man sets for himself. The very discord of nature with the natural man and of the natural man with himself becomes a means for the development of the spiritual man. "We have in the moral law which enjoins on us in a practical point of view the application of our powers to the accomplishment of this end a ground for assuming its possibility and practicability, and consequently too a nature of things harmonious with it. Hence we have a moral ground for thinking in the world also a final purpose of creation."^a Nature must thus be viewed as teleologically related to man under moral laws in spite of the fact that nature cannot be experienced or perceived as an organism. In other words, in "man as the subject of morality we have a final purpose to which the whole of nature is teleologically subordinated." * * * "Without man the whole creation would be a mere waste, in vain, and without final purpose; and it is in man's good will that he can have an absolute worth, and in reference to which the world can have a final purpose."^b

And also from a pure practical point of view, i. e., for the sake of realizing that which the moral law demands of him as end to himself, man must view nature as adaptable to said end, for "a final purpose in man proposing *a priori* a duty and a nature without any final purpose in which this purpose in man may be actualized would involve a contradiction." And, finally, to make possible the complete good of man, or the realization of happiness which is his end as a natural being in harmony with moral perfection which is his end as a moral being, he must postulate a God through whose power and wisdom and goodness this otherwise impossible thing can be thought of as possible.

There are two things, therefore, that must be explained teleologically, viz., *life*, or *organic nature*; and *collective nature* viewed in relation to man under moral laws.

^a Section 88.

^b Section 86.

II.

OUR MENTAL NEED OF THE TELEOLOGICAL PRINCIPLE AND THE LEGITIMATE USE THAT CAN BE MADE OF IT.

Sections 61, 66, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 80 and 81, cf. also *Introduction to the Critique of Judgment*, sections IV and V.

The production of material things and their forms must be judged to be possible according to merely mechanical laws. Our reason demands this because such laws alone agree with the principles on which knowledge and experience are possible. But we have also seen in the preceding discussion that some products of material nature (e. g., organic objects) cannot be judged to be possible according to merely mechanical laws. All the known laws of mechanism fail to make them intelligible. Here is an apparent antinomy, and unless we subject the matter to a careful criticism our explanation will become involved in a real and insoluble antinomy. If we confuse the above maxims with constitutive principles of the possibility of objects and say: all production of material things is possible according to merely mechanical laws, and admit, on the other hand, that some productions of material things are not possible according to merely mechanical laws, we have a contradiction of principles, and one of the two propositions must be false. In this latter case we have no antinomy of the judgment, but a conflict in the legislation of reason itself. We have erred in this case in making reason determine the possibility of things *a priori*,

which is not possible according to mere empirical laws of nature. We have erred in bringing the determinant judgment itself into an antinomy, or into a conflict of its principles, which is not possible, for the determinant judgment has no *autonomy*. It is strictly *heteronomous*; i. e., it subsumes the particular only under the universal principles given it by the understanding, and thus it cannot fall into a discord with itself. But the reflective judgment is *autonomous*. It indeed must subsume the particular under the universal principles of the understanding as far as possible. But as we have already seen, it also subsumes under a law which it gives to itself. Where we are quite in want of a law under which the particular can be subsumed, as is the case in our judging of organisms, the judgment (because it must always seek to find the universal) must, in such case, serve as a principle for itself. But in this latter case "we have a mere subjective principle for the purpose of employing our cognitive faculties, i. e., for reflecting upon a class of objects." * * * "Therefore, in reference to such cases the reflective judgment has its maxims,—necessary maxims, on behalf of the cognition of natural laws in experience, in order to attain by them to concepts, even concepts of reason; since it has absolute need of such in order to learn merely to cognize nature according to its empirical laws."^a Between these maxims of the reflective judgment there may be a conflict, and consequently an antinomy. But we must observe that the conflict is not between the principles of the determinant judgment, or between constitutive principles of the understanding, but only between maxims of the reflective judgment. The principle which the reflective judgment gives to itself for the sake of looking upon these objects of nature, which are inexplicable according to the laws of mechanism, serves merely as a guide to our reflection upon these objects. It does not pretend to tell us anything about these objects themselves, much less to determine them according to this principle. It still leaves them open to all mechanical grounds of explanation and does not withdraw

^a Section 69.

from the world of sense and ground them determinately in the supersensible. "All appearance of an antinomy between maxims of the mechanical and teleological methods of explanation rests therefore on this: that we confuse a fundamental proposition of the reflective judgment with one of the determinant judgment, and the *autonomy* of the first (which has mere subjective validity for the use of reason in respect of particular laws) with the *heteronomy* of the second which must regulate itself according to laws given it by the understanding."^a

Teleology then is a matter only for the reflective and not for the determinant judgment. And from what has already been said it is clear that the idea of design is only a guide to us in our reflection upon certain enigmatical objects of our experience, but not a principle for determining these objects. Thus the faculty of judgment gives the law to itself and not to nature. "It is one thing to say: the production of certain things of nature or that of collective nature is possible only through a cause which determines itself to action according to design; and quite another to say, *I can, according to the peculiar constitution of my cognitive faculties*, judge concerning the possibility of these things and their production, in no other fashion than according to design; i. e., a Being who is productive in a way analogous to the causality of an intelligence. In the former case I wish to establish something concerning the object, and am bound to establish the objective reality of an assumed concept; in the latter case, reason only determines the use of my cognitive faculties, conformably to their peculiarities and to the essential conditions of their range and limits. Thus the former principle is an objective proposition for the determinant judgment, and the latter merely a subjective proposition for the reflective judgment; i. e., a maxim which reason prescribes to it."^b

It is clear then that teleology, which is only a subjective principle of the reflective judgment, can give us no knowledge

^a Section 71.

^b Section 75.

of objects and, when used as a critical principle, does not pretend to do so. It simply applies an idea of reason to those things of nature which are mechanically inexplicable for the sake of making them intelligible to an understanding like ours. We do not pretend to deal with the concept dogmatically as though it were conformable to law for the determinant judgment, but we shall deal with it only critically, and then only as a critical principle of the reflective judgment, for we shall "consider it only in reference to our cognitive faculties and consequently to the subjective conditions of thinking it, without undertaking to decide anything about its object."^a The principle merely expresses a mental need and in asserting our need of this teleological method of explanation in the case of certain things, which are accidental in view of mechanical laws, we do not thereby pretend to settle anything dogmatically in regard to the hidden inner relation that may exist between mechanism and purposiveness, or to decide whether mechanism may or may not be able to produce these enigmatical products. All that we wish to say is that it is not possible for an understanding like ours so to see things.

The Call for Teleological Explanation Comes From a Defect in the Inmost Nature of our Mental Faculties. An impartial criticism makes evident the fact that we, because of the nature and limitation of our mental faculties, need another principle to supplement the deficiency of the idea of mechanical causation though only as a principle for reflection upon and not for the determination of objects. The very nature of our cognitive faculties compels us to bring to our aid this teleological principle where the mechanical principle fails to account for the existence and form of a product of nature. The call for this principle has its ground in the difference between our understanding and our reason. The reason is a faculty of principles and proceeds in its ultimate demands to the unconditioned. But our understanding can proceed only by means of perceptions which

^a Section 74.

are supplied by the senses. The understanding is therefore plainly limited and cannot keep pace with the reason. And since there is this difference between the understanding and reason as mental faculties there is also a distinction for us between what is *actual* and what is *possible*. The understanding, by means of perceptions, gives us only what is *actual*. It cannot pretend to anything more. But we can think what is *possible*. And since we cannot know the ground for the unity of the mechanism of nature and those products which, in view of these laws, are accidental, we must, because of this limitation of our understanding, think the possibility of this union. It is only when we reduce nature and her products to a unity of principles that it becomes intelligible to ourselves. But this unity can be thought only according to the idea of design as prescribed by reason. Our reason makes us conscious of the defect of our understanding, which is merely *discursive*, and must proceed from the analytic-universal to the particular in determining objects. Reason however thinks the possibility of an understanding which is *intuitive*, and can proceed from the synthetic-universal to the particular, and for which therefore there is no distinction between *possibility* and *actuality*, and for which there is no accidental character in the particular. The reason therefore for our applying the idea of design to certain enigmatical products of nature is clearly due to the constitution and limitation of our finite intelligence. Reason, which (as well as the understanding) must seek for a universal principle under which to subsume these particular products, but failing to receive one from the understanding, and receiving no instructions from the objects themselves, must, in such case, give the principle to itself. This principle can be none other than that of a designing intelligence which uses mechanical means to bring about its purpose. But we must not forget that this idea of design is only a subjective principle which does not establish the reality of its assumed concept, and holds only for an intelligence limited like ours. We must be careful not to confuse the mechanical and the teleological principles of explanation, for they

are not both valid for determining objects of nature. Teleology is only an heuristic principle,—only a way in which we are obliged to look at nature. It is indeed a way that we *must* look at nature, but it cannot assure us that we will find what we are looking for. It is a necessary principle of investigation only for a limited intelligence like ours. In other words it is only because of the limitation of our finite intelligence that we are obliged to call to our aid this teleological method of explanation.

The reason for the controversies in dogmatic philosophy over the existence of final causes in nature is that its devotees never subjected our mental faculties to a thoroughgoing criticism. They have not learned to distinguish between the understanding, which is limited by sensibility, and reason, which is not thus limited; and between the determinant and the reflective aspects of the judgment. Four schools have expressed their views on the subject. Two have held to the idealism of design, viz., that it is only a subjective illusion; and two have held to the realism of design, viz., that there is something in nature corresponding to our idea of design. Among the idealists we may mention Democritus and Epicurus, who deny that there is anything in nature that is not mechanically caused. They reduce all our teleological judgments to an illusion but, having never subjected the matter to a careful criticism, they have failed to give any explanation whatever of the illusion, or of the mental facts which give rise to it. Spinoza reduces all apparent adaptation of things to each other to a unity of ground or substance. But as Spinoza denies all intelligence to this substratum his position is nothing more than fatalism. The unity of purpose which we are compelled to seek requires more than the reduction of all things to one cause; it requires an intelligent cause. Among those who hold to the realism of purposiveness are the hylozoists and the theists. The former conceive of matter as being alive, or of nature as animated by a world-soul. They would deduce the purposiveness which seems to belong to organized nature from the life of matter. But

matter is in its essence inert and lifeless. We find life first in organized beings, and to explain the life of organized beings by reference to life in matter, whereas it is only in organized beings themselves that we find life, is obviously reasoning in a circle. Theism alone of these schools explains the purposiveness which we find in organized nature adequately by referring it to an intelligent cause of nature. No other reference explains it at all. But theism errs in dogmatically asserting that because *we* cannot explain the appearance of design by mechanical causes it is objectively impossible to do so; and it errs, furthermore, in asserting dogmatically that because *we* (i. e., a finite intelligence like ours) are compelled to use the design argument to account for organic nature there is no other way of explaining it. Theism fails to see that the fault is with our finite understanding.

It is evident that the errors of these dogmaticians are due to the fact that they have not subjected our mental faculties to a thorough criticism. They have all failed to see that teleological explanation simply expresses a mental need, or a deficiency in our understanding. All that we can say is: that for an intelligence like ours there is no other way of explaining these products of nature than by means of the idea of design. But we do not in this way pretend to settle the question as to the ultimate nature of these things in themselves; or whether mechanism and teleology may or may not in the unknown ground of nature be united in one principle. There may be an Intuitive Understanding for whom mechanism and design coalesce, but we are sure that they do not do so for us. That there is a Being with such an understanding is a problematical idea for our reason, but unattainable for our understanding. We do know that no Newton will be able to make comprehensible to an understanding like ours a single blade of grass without recourse to the idea of design. We must absolutely deny this insight to men. We are therefore driven by the limitation of our understanding to guide our reflection upon such products by means of the idea of design. But a critique teaches us not to

become dogmatic, but to speak cautiously, for "how can we know that in nature, if we could penetrate to the principle by which it specifies the universal laws known to us, there cannot lie hidden (in its mere mechanism) the sufficient ground of the possibility of organized beings without supposing any design in their production." *a* The reason we cannot do this is because of the limitation of our cognitive faculties, which we have pointed out, and for beings like ourselves, limited as we are in our understanding, the teleological principle remains as a necessary heuristic principle. But we must not use the principle in a dogmatic way as though it were a constitutive principle of the understanding determining nature in a positive way. "In order, therefore, to remove the suspicion of the slightest assumption,—as if we wanted to mix with our grounds of cognition something not belonging to Physic at all, viz., a spiritual cause,—we speak, indeed, in the teleology of nature as if the purposiveness in it were designed, but in such a way that this design is ascribed to nature, i. e., to matter. Now in this way there can be no misunderstanding, because no design in the proper meaning of the word can be assigned to inanimate nature. We give notice that this word here only expresses the principle of the reflective and not of the determinant judgment, and so is to introduce no particular ground of causality; but only adds for the use of reason a different kind of investigation from that according to mechanical laws, in order to supplement the deficiency of the latter even for empirical research into all particular laws of nature." *b*

*The scientific use of the teleological principle. * * **

* * * *We have seen then that "it is not in the concept of nature but quite apart from it that we can hope to find the least ground *a priori*" for this teleological principle. It is only a borrowed concept, and, therefore a *foreign* principle

a Section 75.

b Section 68.

and so may not be introduced into our scientific investigations of nature and her products in a determinate way. "Science must not transgress its bounds in order to introduce into itself as a *domestic* principle that, to whose concept no experience can be commensurate, upon which we are entitled to venture only after the completion of natural science."^a It is praiseworthy for comparative anatomy to go through all the great kingdom of organized beings, seeking (by means of mechanism) whether there is discoverable in it any trace of system which points to a common principle of production. "Science must not let slip the mechanical principle" so far as this explains at all, for it is only in this way that our actual knowledge of nature is at all enhanced. "This is done in order to restrict the study of nature mechanically considered to that which we can so subject to observation or experience that we are able to produce it ourselves as nature does, or at best by similar laws. For we see into a thing completely only in so far as we can make it in accordance with our concepts."^b The only concept that enables us to see into organic nature is design.

It may seem possible by mere mechanism to infer any product of nature from man, through the polype, on down through mosses and lichens, from crude matter itself. In this way it becomes the task of the archeologist of nature to go back to the remaining traces of nature's earliest revolutions and, according to known or supposed mechanical laws, to trace the genesis of this great family of creatures (i. e., organisms). But however far we may go back on the basis of mechanism we are not able to explain away the difference between the organic and the inorganic, and thus to reduce design to mechanism. The deficiency of our understanding prevents this. "Ultimately we are still obliged to attribute to this universal mother (nature) an organization which is adapted for the production and maintenance of all these creatures; otherwise we should be unable

^a Section 68.

^b Section 68.

to explain the possibility of the purposive form of the products of the animal and the vegetable kingdom." * * * "We have therefore only pushed back the ground of explanation a stage further; nor can we pretend to have made the genesis of these two kingdoms intelligible without resorting to final causes." * * "If the naturalist will not waste his labor in his examination into the nature of objects which have to be considered as ends of nature, or organisms, he will be obliged always to start with the presupposition of an original organic principle, which uses the mechanism of nature to produce new organized forms, or to develop the organic forms already produced into new shapes."^a

The Two Principles Must be Associated in Our Efforts to Comprehend Nature.—If we only bear in mind that mechanism is a principle of the determinant judgment and that teleology is only a subjective principle of the reflective judgment we will see that the two principles are not contradictory, and that, from the standpoint of our limited intelligence, neither of them can be disregarded in our efforts to understand the whole of nature. "In a thing that we must judge as a natural purpose we can no doubt try all the known and yet to be discovered laws of mechanical production, and can even hope to make good progress thereby; but we can never get rid of the call for a quite different ground of production for the possibility of such a product, viz., the causality by means of purposes. Absolutely no human reason (finite like ours) can hope to understand the production of even a blade of grass by mere mechanical laws. As regards the possibility of such an object, the teleological connection of cause and effect is quite indispensable for the judgment even for studying it by the clue of experience."^b In the study of these organized products of nature, the two principles not only must be employed together, but the mechanical must be subordinated to

^a Section 80.

^b Section 77.

the teleological. This is so because our understanding is clearly bounded, and can proceed only according to a given principle, while reason, seeking for the unity of the seeming disparate principles of production, passes on to the unconditioned ground of these products according to a principle which it gives to itself.

It is evident then that for an understanding like ours these two disparate principles must be associated in our efforts to explain a natural purpose. We have seen that mechanism cannot enable us to think the possibility of an organized being and therefore must be supplemented by the principle of design; and, in such case, must be subordinated to the latter principle even in view of our simple experience of such an object. But just as little, on the other hand, can teleology consider such an organism as a product of nature if the mechanism of the latter be not associated with the former as the instrument of a cause working designedly. Teleology may not remove such an object from nature, for this would place it outside the limits of knowledge altogether. And it is precisely as a product of nature, accidental as regards the known laws of nature, that an organism obliges us to call to our aid the teleological principle as a way of explaining it to ourselves. The two disparate principles must, therefore, be associated in our efforts to explain the whole of nature. Because of the evident limitations of our cognitive faculties we may not disregard either the one or the other.

The Unification of These Principles Must be Thought of as Grounded in the Supersensible.—The unification of these principles, which it is possible and even necessary for us to think, lies in the Supersensible, and can, therefore, not be comprehended by us. None of the dogmatic attempts to explain the unification of these principles in the production of a living thing of nature is, for this reason, satisfactory. Occasionalism postulates a miracle at each birth. The Supersensible intervenes directly in the pro-

duction of each new living thing. But in this way all nature is lost, and no one who takes any interest in philosophy may advocate such a theory. Pre-established Harmony has been advocated in two different forms: on the one hand, as *Individual Preformation*, and on the other, as *Generic Preformation*. The former differs from Occasionalism only in this respect: that it supposes the embryos of all individuals to exist in the first parents. Nature is viewed as *self-evolving* but not as *self-producing*; and organic beings are *educts* and not *products*. The doctrine of *Generic Preformation* is vastly superior to the other two, "for in respect of the things which we can represent as possible only according to the causality of purposes, at least as it concerns their propagation, this theory regards nature as *self-producing*, not merely *self-evolving*. And thus with the least expenditure of the supernatural leaves to nature all that follows after a first beginning."^a

The fact is that the union of these two principles of causation, which reason obliges us to think, lies beyond our knowledge. An understanding that is not *discursive* like ours, but *intuitive* (i. e., an understanding that can proceed from the synthetic-universal to the particular and thus can perceive the whole before the parts) can see the two principles as actually one. The best that we can do with our limited faculties is to associate together in our method of explanation these two disparate but mutually supplementary principles of causation. If we refuse to do this some part of nature must, *for us*, remain unexplained. And on the other hand, if we confuse the idea of design, which is a purely subjective principle of the reflective judgment, with the constitutive principles of the determinant judgment we will bring about a conflict of principles, and our explanation will become involved in a hopeless contradiction.

^a Section 81.

III.

THE THEORETIC LIMITATIONS AND THE MORAL. VALIDITY OF THE TELEOLOGICAL ASSUMP- TIONS. (Sections 79, 85, 86, 87, 88, 89, 90 and 91.

cf. also section 75.)

We have seen from the preceding discussion that the principle of teleology has a legitimate scientific use as a guiding thread to the investigation of nature for an understanding like ours. But the principle is also *necessarily limited*. It is only a subjective maxim for the reflective judgment, and as such can give us no real knowledge whatever of objects. It cannot say positively that organisms are caused according to ideas of a supersensible intelligence. It can only say: "because of the limitation of our cognitive faculties we cannot understand these products of nature after any other fashion." What these objects are in themselves remains just as undetermined as ever. They are not in the least made comprehensible in themselves objectively, but only to our limited intelligence. Teleology prescribes the law only to ourselves and not to nature. It has no theoretical value whatever for the understanding or for the determinant judgment. It is not valid as scientific doctrine. Our Critique has shown that it is only a principle subjectively assumed for the sake of bridging over the chasm between the defect in our understanding, which is sensibly limited, and our reason, which passes on to the unconditioned. As such it mere-

ly indicates the way that we must look at things which lie beyond the limits of our understanding without telling us anything positive about these things.

Neither can teleology determine any thing positively, or objectively, concerning its own assumptions, "for if things be subsumed under a concept that is merely problematical, its synthetic predicates can furnish only problematical judgments of the object, whether affirmative or negative; and we do not know whether we are judging about something or nothing."^a Teleology can, therefore, not say positively: "there is a God who is the ground and cause of nature." It can only say that an understanding like ours can comprehend organic nature only according to the assumed idea that it is caused by an Intelligence which uses mechanical means to bring about an end set by reason. But the existence of this Intelligence is not guaranteed, much less its synthetic predicates, by the purely subjective necessity of assuming it. The assumptions of design, as a special principle of causation, and of a God who produces things in nature according to design, remain mere maxims of the reflective judgment. Physico-teleology therefore has as little determinate value for theology as it has for natural science. It can serve, at best, only as a propaedeutic to theology. Being valid therefore as doctrine neither in natural science nor in theology, and belonging as a *domestic* principle neither to theoretic nor practical philosophy, it is plain that it belongs only to Critique, and then only to a Critique of the reflective judgment. It is limited to the reflective judgment, and is theoretically valid only as a guiding thread to our investigation of that part of nature which is incomprehensible to the understanding according to its necessary laws.

The Teleological Assumptions Cannot be Proved.—The first requisite of a proof is that it *convinces* or *convicts* us. And the proof that is intended to *convince* can

^a Section 74.

be of two kinds: either deciding what the object is *in itself*, or what it is *for us* according to our necessary rational principles of judgment. The former kind of proof is based on adequate principles of the determinant judgment, and the theoretic grounds of such proof resolve themselves into (1) *Logically Strict Syllogisms of Reason*; (2) *Conclusions According to Analogy*; (3) *Probable Opinion*; (4) *Hypothesis*. The question in this connection is: can the teleological assumptions be proved on any of these theoretic grounds?

(1). Our Critique has made this one thing clear, viz., that there is absolutely no cognition of this Supersensible Being since no intuition that is possible for us corresponds to the concept of a Being that is to be sought beyond nature. We cannot logically prove the infinite from our experience of the finite as if the latter were the more comprehensive idea. But in this matter only the finite is given in our experience from which we would have to deduce the infinite which is a logical impossibility. The teleological assumptions can therefore not be proved according to strict syllogisms of reason.

(2) "Analogy is the identity of the relation between causes and effects, notwithstanding the specific difference of the things or those properties in them which contain the cause of like effects." * * * Thus "we can indeed think one of two dissimilar things, even in the very point of their dissimilarity in accordance with the analogy of the other, but we cannot, from that wherein they are dissimilar, conclude from the one to the other by analogy, i. e., transfer from the one to the other this sign of specific distinction."^a For example, we compare the building operations of beasts with the artificial works of man and note that instinct in the beast has the same relation to the effects produced that reason in man has to its effects. From the similarity of the mode of operation of beasts to that of man we may quite rightly conclude according to analogy that beasts, too, act in accordance with representations, and that

^a Section 90.

they are not mere machines like Descartes supposed. Our right to do so consists in the sameness of ground for reckoning beasts (as living beings sensibly conditioned) in respect of such determination in the same genus as man so far as we can externally compare them. But here the argument from analogy must cease. We may not conclude that because man uses reason (something which we know) in his artificial works, the beast must do the same (something which we do not know), and call this a conclusion from analogy. Just so we can think, according to the analogy of an understanding, the causality of a Supreme World-cause, by comparing its purposive products, with the artificial works of man. But we cannot conclude according to analogy to those properties in it which are in man, because here the principle of the possibility of such a method entirely fails, viz., the sufficient reason for reckoning the Supreme Being in the same genus as man. The one is always sensibly conditioned and the other is always supersensible. The two not only belong to two absolutely distinct classes of beings, but they are absolutely different types of understanding, and we cannot transfer from the one to the other that wherein they are absolutely different. The argument from analogy is therefore not valid here.

(3) Arguments from probability, or probable opinion, cannot be admitted here, for "probability is part of a certainty possible in a certain series of grounds, the insufficient ground of which must be capable of completion." * * * And "since, as determining grounds of one and the same judgment, they must be of the same kind, for otherwise they would not constitute a whole, one part of them cannot lie within the bounds of possible experience and the other outside of all possible experience."^a Now it is quite evident that empirical grounds of proof, such as are available for us in a physico-teleology, can never lead to the supersensible, and that which is lacking in this series can never be completed by any possible experience.

^a Section 90.

We therefore never approach nearer to the supersensible, or to a cognition of it, by any sensible experience and so can form no legitimate theoretic opinion of it.

(4). If an hypothesis is to serve for the explanation of the possibility of a given phenomenon, its possibility must, at least, be completely certain. But in the case of a Supreme Being, none of the conditions requisite for a cognition as regards that in it which rests upon intuition are given, and so the sole criterion of possibility that remains for us is the mere fact that it can be thought without contradiction; but this proves nothing in regard to the object itself. There is therefore not the least theoretic proof for the Being of God, or for the teleological assumptions in general, as objective realities.

If we now change our point of view and look merely to the way in which anything can be an object of knowledge *for us*, then our concept will not be concerned with objects as they are in themselves but merely with our cognitive faculties and the use they can make of a given representation. From this point of view the question is not in regard to the possibility of the thing, but is rather in regard to the possibility of our knowledge of the thing that is represented. The question then is: if there is such a Supreme Being as we have assumed, is knowledge of such a Being possible for us?

Cognizable things are of three kinds: (1) *Things of Opinion*. Objects of mere rational ideas, which for theoretical knowledge cannot be represented in any possible experience, (as we have already seen) are so far not cognizable things, and we can form no opinion of them. To cognize a thing and form an opinion of it, it must, at least, not be impossible to experience it. For example, the ether of the new physics, an elastic fluid pervading all matter, is a mere thing of opinion, yet is such that, if our senses would be sharpened to the highest degree, it could be perceived. Or to assume the existence of rational inhabitants of other planets is a legitimate thing for opinion, for if we could get near enough, which is itself possible, we could decide

by experience whether this is so or not. But it will never be possible under any sensible conditions to experience the assumptions of teleology.

(2). Another class of things cognizable by us are *things of fact*; i. e., things that can be proved either through pure reason or through sensible experience. But we have already seen that the teleological assumptions cannot be deduced logically from universal principles, for we have only particular and empirical principles given from which to deduce these assumptions. Neither can they be experienced in any sensible way and thus plainly cannot be classed among things of fact. We must deny, therefore, on valid epistemological grounds that we could have any knowledge of this Supreme Being even if there were one.

(3). Only one more class of cognizable objects remains, and these are *objects of faith*, or objects "which in reference to the use of pure practical reason that is in conformity with duty must be thought *a priori* (whether as consequences or as grounds), but which are transcendent for its theoretical use."^a To this class of objects the teleological assumptions belong. An impartial criticism, therefore, has reduced these assumptions to a mere matter of moral faith from a pure practical point of view.

Now "faith is the moral attitude of reason as to belief in that which is unattainable by theoretical cognition. It is therefore the permanent principle of the mind, to assume as true, on account of the obligation in reference to it, that which it is necessary to presuppose as the condition of the possibility of the highest moral final purpose, although its possibility or impossibility be alike impossible for us to see into."^b Such faith "as trust in the attainment of a design, the promotion of which is a duty, but the possibility of the fulfillment of which is not

^a...Section 91.

^b Section 91.

to be comprehended by us is quite moral." * * * "And that man is morally unbelieving who denies all validity to rational ideas because there is wanting a theoretical ground for their reality."^a Therefore the teleological assumptions, though they cannot give us anything determinately concerning objects and are thus plainly limited in their relation to both science and theology, are nevertheless valid for moral faith.

Reason enjoins upon us *a priori* the duty of promoting our highest happiness in harmony with our moral worthiness to be happy. This duty rings clear for all rational creatures. This moral command is given regardless of any and all empirical conditions. But we find nothing in nature that will help us or that will even encourage us in the fulfillment of this duty. There is therefore a strict moral necessity to assume the world to be that kind of system in which this highest end of reason can be thought of as possible. But to assume the world to be such a system necessitates the further assumption of a God through whose power, and wisdom, and goodness this is made possible. There is therefore a pure moral reason "to assume God only to furnish practical reality to a purpose which reason, without any such presupposition, enjoins upon us *a priori* to bring about with all our powers."^b

But we must not fail to see that this moral necessity for assuming God is limited to a purely practical point of view. The existence and the obligatoriness of the moral law do not depend upon the existence of God. If there were no God "every rational being would yet have to cognize himself as straitly bound by the precepts of morality, for its laws are formal and command unconditionally."^c Reason gives the law of duty to us categorically through freedom. Neither will our denial of God exempt us from our obligation to the moral law. If, because of the weakness of the speculative arguments, and still further

^a Section 91.

^b Section 87.

^c Section 87.

because of many irregularities in nature, a man becomes persuaded that there is no God, he is still under the imperative of the moral law, and will be a contemptible creature even in his own eyes if from such a disposition he will feel himself free to transgress the commands of the moral law. This law needs no other ground for its existence and obligatoriness than its own unconditioned, inner necessity. No! lack of faith in God will not allow us to give up our faith in the moral law, neither will it exempt us from unconditional obligation to it.

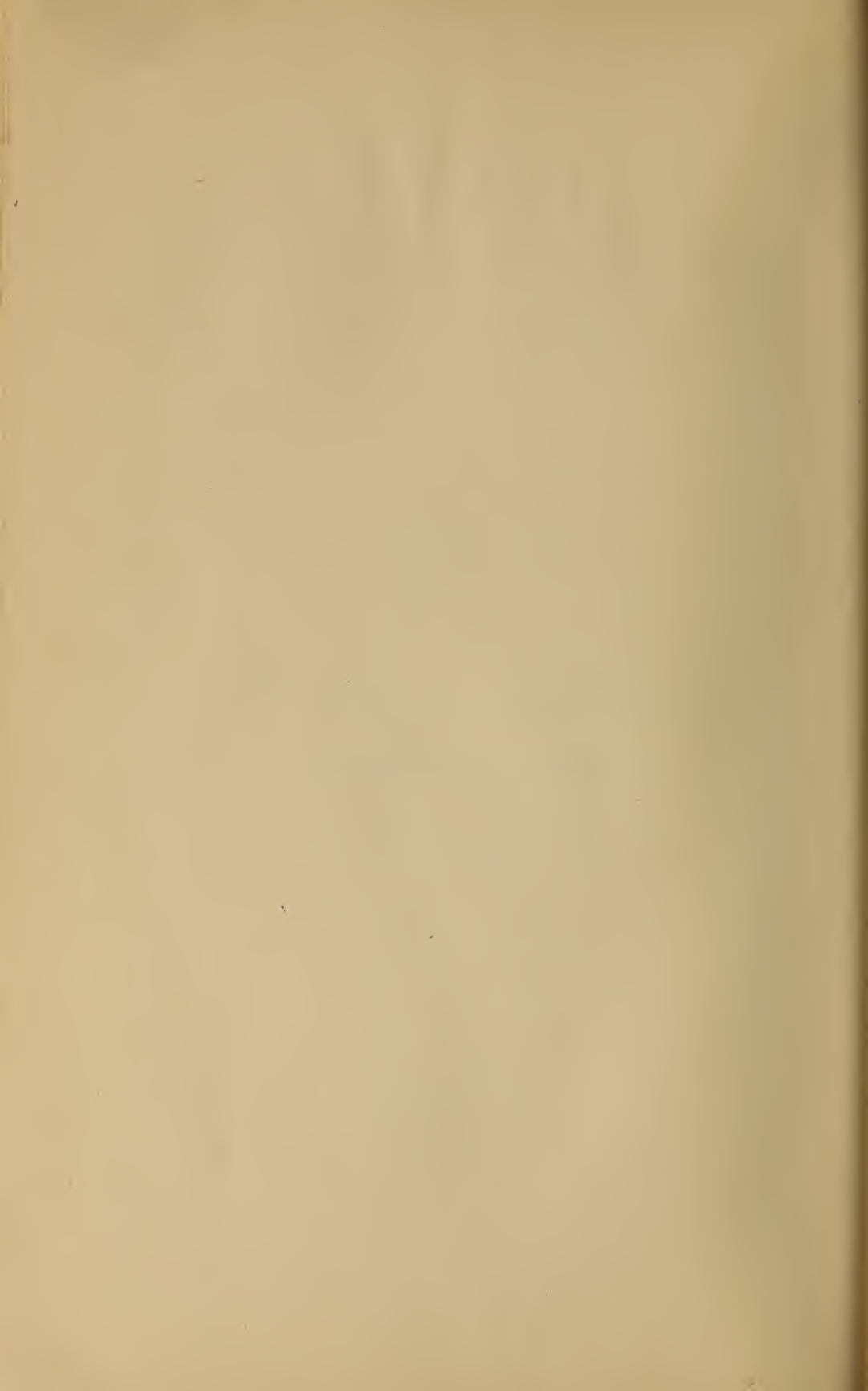
But in such case there is one thing that we *must* give up, viz., the hope that the final end of the moral law can be realized by us under present empirical conditions. The end of the moral law can be attained only if there is a God. Suppose the case of a righteous man (Spinoza, for example), who believes neither in God nor a future life, but who, because of his reverence for the moral law, would endeavor to practice it. He desires no advantage to himself either in this world or in another. He wishes disinterestedly to establish the good to which this holy law directs all his powers. But his efforts are bounded. From nature he receives no regular harmony or accordance with the purpose that he feels himself obliged to accomplish. Deceit, violence, and envy will always surround him, and nature, which respects not his worthiness to be happy, subjects him to all the evils of want, disease, and untimely death, just like the beasts and the evil men around him. So it will be until one wide grave engulfs them all together, honest or not, it makes no difference, and thus throws him back,—who is able to consider himself a final purpose of creation,—into the abyss of the purposeless chaos of matter from which all were drawn. Under such conditions the purpose which the moral law enjoins upon us to bring about with all our powers must be given up as hopeless. If the end imposed by the moral law shall not be defeated we must assume a Being who is the moral author and governor of the world. “Thus is found a pure moral ground of practical reason for assuming this cause (i. e., God) in order

that we may no more regard this effort of reason as quite idle, and so run the risk of abandoning it from weariness."^a Thus it is quite plain that the assumption of God as the intelligent creator and the moral governor of the world has its validity ultimately grounded in *a pure practical point of view*.

^a Section 86, remark.

PART THREE.

AN APPRECIATION AND A CRITICISM OF THE
DOCTRINE AS ELABORATED
BY THE AUTHOR



AN APPRECIATION AND A CRITICISM OF THE DOCTRINE AS ELABORATED BY THE AUTHOR.

It was shown in Part One of this dissertation that Kant discovered a new phase of purposiveness in his critical study of the Beautiful. In our cognition of an object, Kant argues, there is always felt a discord between the subject who knows and the object which he endeavors to know. There is something in the object which evades the subject. The two seem foreign to each other as if they were not intended for each other. And in our efforts to cognize nature there is also felt a discord between understanding and sense. Our consciousness becomes divided between a consciousness of self as object and self as subject, and thus the unity of intelligence itself becomes lost. But in our sense of the Beautiful there is immediately felt an agreement, or a pleasurable harmony, between ourselves and the object. It seems as if the object were designed for us. This feeling of harmony between subject and object is so immediate, and the greeting which the spirit gives the object is met with such a ready response that Kant here finds an *a priori* ground for assuming a hidden, inner union of that which had been sharply separated in the former Critiques. In this feeling of harmony between the subject and the object the two worlds of our experience approach each other, and the divided consciousness becomes reunited. In the sense of the Beautiful we immediately *feel* a union which we must *think* (but which we cannot know) in our effort to cognize nature. But the ultimate ground of the union which we feel must be in a designing understanding. Having thus discovered this new phase of the principle of design in the purely subjective sense of the Beautiful, he now applies it in an objective sense to those objects of nature which

cannot be accounted for by means of the known mechanical laws. To make intelligible to ourselves these products, which are accidental according to all the laws known by the understanding, we must think as their cause a designing Understanding which adapts nature to our intelligence.

The way in which Kant found this principle of design is interesting but is really of little importance. In his former labors he had separated the sensible and the intelligible in such a way that the unity of consciousness was lost, and he was obliged to find some mediating principle. His mistake was in regarding faculties and relations as foreign to each other which, in point of fact, are not foreign to each other. To say that there is a sharp antithesis between sense and understanding, and that there is a feeling of pain in our cognition of an object "as though it were not meant for us" to understand it, is overstating the case. On the contrary, there is an immediate and no uncertain feeling of harmony and union between ourselves and objective nature each time that we lay bare a new fact of nature, or that we discover a new law. In this cognition of nature there is a pleasurable feeling of union no less clear and distinct than that which we feel in our perception of a beautiful object. Nature does indeed invite us to an understanding of its laws no less than it invites us to contemplate its beauty; and the kinship felt between ourselves and nature is just as close in the discovery of a new law as it is in the contemplation of a flower garden. Kant's mistake was in sharply separating that which should not have been thus separated, and it was this which afterwards put him to the trouble of uniting it again.

But regardless of the way in which Kant found his principle of design he is right in his contention that no man who earnestly desires to understand the whole of nature can deny the fact that mechanism proves itself inadequate to the task; and that its deficiency must be supplemented by some other principle of explanation, or else we must give up our effort to

understand our experience of nature in certain very important departments. If only one tree, or only a single blade of grass would be found among the inorganic objects of nature we would be obliged to depart from the idea of mere mechanism to make this thing intelligible to ourselves; for here is an object of nature which can by no means be accounted for on the ground of mechanical action and reaction of the parts prior to the whole. It is an object in which whole and parts, means and end, reciprocally presuppose each other; and the only way that we can make such an object intelligible to ourselves is by means of an idea which can be thought by reason. To account for one blade of grass among the rocks, and rivers, and mountains of the earth we are obliged to think as cause of nature an Understanding which acts designedly. And, furthermore, in view of the origin and maintenance of the species we must ultimately resort in our explanation to the idea of a designed adaptation of nature. Although as Kant has shown, (in a way clearly anticipating Darwin) we may trace the origin of the species backward from man, down through mosses and lichens to the womb of nature herself, we must either stop here and confess that we cannot go any further, or else we must admit that nature is adapted to bring forth and maintain such creatures. This much Darwin himself frankly confesses in the closing paragraph of *The Origin of Species*. Science, in its explanation of the origin and development of things, does not need the teleological principle, for it deals only with particular facts and relations which have had a beginning in time and occupy a place in space; and whatever is found in this way is dependent on something as its cause and will be followed by something else as its effect. The business of science is to trace out these causal relationships. But philosophic explanation begins where scientific investigation ends. The man who would make intelligible to ourselves the whole of things must find a unit of explanation under which all the manifold particulars must be subsumed; and this universal principle can be none other than the principle of design, or a designing understanding

which uses mechanical means to bring about an end set by reason. It is only in this way that the manifold particulars of nature can be reduced to the unity of our intelligence and thus become completely intelligible. Let mechanism do its work as far as it can; unaided by any other principle of explanation; but where it altogether fails to explain the given data, we must not, out of prejudice, or for any other reason, refuse to admit another principle to supplement its deficiency, provided only that this supplementary principle be not foreign to the understanding and in this way introduce something fanciful into our philosophy.

This is just what Kant means to do in the Transcendental Dialectic when he admits of ideas of reason whose function is to arrange the infinite mass of our judgments and reduce them to a teleological system; and still more in this present work when he applies the principle of design in an objective way to those products of nature which are inexplicable according to the empirical laws of nature. We must indeed admire the honesty and the absolute sincerity of Kant for permitting his system to return upon itself when he allows *a priori* principles of explanation in the Transcendental Dialectic which were denied in the Transcendental Analytic, and more especially when he indicates a certain theoretic value and scientific use of these principles in his last work beyond that which was allowed in his former works. He shows us not only the *limits* but also the *needs* of the understanding. Our knowledge is limited to phenomena which are mechanically caused, but the deficiency of this principle of explanation clearly expresses the need of another principle to supplement it for the sake of the completeness which reason demands.

Our only quarrel with Kant on this point is that, when the last word is spoken, he refuses to allow anything more than a mere regulative value to this supplementary principle; or as he states it in this present work: a mere reflective value for the judgment. The principle is summoned only as a guide in our reflections where mechanism can no longer point out the way. But he dismisses his guide, after he has served his pur-

poses, with the charge that he is a "foreigner" who has no right to a place in exact philosophy. The sympathetic student of Kant cannot help but feel that all through his last great work the earnest little man is chafing under the shackles which he himself forged in his earlier works. There he allows the ideas of reason as regulative principles, but stubbornly denies that they have any constitutive value whatever for the understanding. The border line of knowledge is distinctly drawn, and beyond this line we must not trespass in the name of knowledge. In the *Critique of Judgment* he indeed more than once intimates a use of these principles in advance of what he allowed in the earlier works. In some portions of this present work he comes close to the position held in *The Inaugural Dissertation* that things in themselves have a content and can become an object of knowledge; but he immediately retreats again behind the breastworks of the *Transcendental Analytic*. Now it is his calling upon this principle of teleology where mechanism fails, and then refusing to make any real use of it that deserves our criticism. To offer us something with one hand and to withdraw it again with the other is not encouraging us in our honest pursuit of knowledge. To use the principle to help us over a difficulty and then throw it away as a useless thing, which is only intended to show us our ignorance, is playing with the problem. The teleological principle must have some constitutive or determinate value for us or else it deserves to be discarded altogether. With Kant we feel the call for a principle to supplement the deficiency of mechanism, and with him we feel that the principle of design is the only one that will do this; but we would go beyond Kant and make some determinate use of it. And we feel that we have a perfect right to do so without introducing into our critical studies a fanciful principle which will prove disastrous to knowledge.

The distinction which Kant emphasizes so energetically and repeats so persistently, viz., that the category of causation determines its class of objects and that the idea of design merely indicates a way that our limited intelligence must look at

certain other objects; and that mechanical explanation may lay claim to exact knowledge, while teleological explanation simply expresses our ignorance, is not valid. The fact is that both principles merely indicate the way that an *intelligence like ours* must look at objects; and this is just as true of mechanism as it is of design. Mechanism indicates a way that we must look at objects where the whole is the result of the action and reaction of parts which are prior to the whole; and teleology indicates a way that we must look at those objects where the whole is prior to the parts, or where the whole and the parts depend reciprocally upon each other. Since this is true, something which Kant himself claims, we may not say in a positive way that mechanism determines its class of objects any more than teleology determines its class of objects; or that mechanism holds the key to knowledge while teleology only sheds light upon our ignorance. It is just as much to the point to speak of a regulative mechanism as it is to speak of a regulative teleology. And, on the other hand, since both principles are called for by our experience of certain objects of nature: the one by the organic and the other by the inorganic, and since in each case we do ultimately receive some instructions from the objects themselves, we may speak of an empirical teleology as well as of an empirical mechanism. Teleology has just as much constitutive value for the understanding in its determination of a blade of grass as mechanism has in its determination of a rock crystal. It is a kind of causation that is as real as mechanical causation, and is not more of an enigma to the understanding than mechanism.

Professor Caird, in his *Critical Philosophy of Kant*, looks at this particular problem from an angle which is diametrically opposite to that from which Kant views it. Caird maintains that the organic object is the one that is most intelligible, for it comes nearest to the nature of our own intelligence. The one thing of which we have immediate and exact knowledge is the organic unity, or the content of our own consciousness, and from this we pass, in a decreasing ratio of certainty, to the

inorganic, which is least intelligible because it is most unlike the nature of our own intelligence. The only way that we can know the inorganic at all is by the impartation of the nature of our own intelligence to it. In fact Caird would have us believe that the inorganic object *exists* and is *real* only as it is embraced within the unity of our own consciousness. The only reason why the organic object which is not mind, like the blade of grass, is seemingly more difficult for us to explain than the inorganic object is the fact that it is an organism so different from the organism which has a mind. The dissimilarity in spite of the similarity is what makes it appear an enigma to us. The difficulty lies in the fact "that the nearness in form to the intelligence brings into prominence its still remaining difference."^a But this difficulty is only apparent and not real.

Although I cannot agree with Caird's point of view, I am not unmindful of the fact that he can support his claim with the same show of reason that Kant can support the opposite view that the mechanically caused object is the more readily intelligible to us. In fact this vague epistemological idealism of Caird and of some of the post-Kantian idealists has its source in the claim of Kant that the determination of objects by the categories is necessarily relative to consciousness, and the objects so determined are therefore mere phenomena, i. e., *objects for us*. The object under mechanical laws would then exist only by an abstraction and not as an objective reality external to consciousness. From this position it is only a small step to the conclusion of Caird and post-Kantian idealism. The fact of the matter is that after all is said that has been said by philosophers, both idealists and realists, who have looked at the problem from different points of view, it is obvious that both principles express an element of truth of which we may not be unmindful if we would explain the whole of our experience. In each case an undetermined *x* remains which represents our ignorance; but this is as true of mechanism as it is of teleology.

^a The Critical Philosophy of Kant, Vol. II, p. 530.

It was also pointed out in our exposition that Kant makes a distinction between the judgment as *heteronomous* and the judgment as *autonomous*; and between a *domestic* principle of science and a *foreign* principle. The judgment as *heteronomous* receives from the understanding the universal law or principle under which it must subsume the particular. The judgment as *heteronomous* has no alternative. It must subsume the particular of our experience under this law which it receives from the understanding. And the principle with which the understanding furnishes the judgment is a *domestic* principle, for it is part and parcel of the cognitive machine. Now mechanism, or the category of universal causation progressing in a linear series from cause to effect, or from the parts to the whole, is such a *domestic* principle which gives us knowledge of the phenomena which are subsumed under it. But the judgment as *autonomous* does not receive the law from the understanding, and receiving no instructions from the objects themselves, it has the *autonomy* to give a universal law to itself under which it will subsume the particulars of our experience in those cases where only the particular is given for which, however, a universal must be found. The only universal which the judgment can give to itself under which the manifold particulars of our experience can be subsumed is this idea of design. But the idea of design, unlike mechanism, is a *foreign* principle. It is not part and parcel of the cognitive machine and so determining what our experience must be (like the category of causation), but is an idea borrowed from reason, which enables us to *think* something which we cannot *know*. And since it is only a *foreign* principle borrowed merely to help us out of a difficulty, we may not introduce it into our philosophy in a determinate way. We may use it only as a guide to our reflection upon those things where mechanism fails. This explains why Kant so stubbornly refuses to allow any constitutive value to the ideas of reason.

We must again admire Kant for guarding us with all his might against the introduction into our scientific and philosophic investigations of any whim or fancy which may pass through

our inexperienced minds. It is in the interest of exact knowledge that he would limit us as he does. But we fail to see any legitimate reason for his stubborn insistence that mechanism is a *domestic* principle and teleology a *foreign* principle,—that the one is part and parcel of the cognitive machine, while the other is only a principle borrowed from reason as a theoretic convenience.

It would be going out of our way, in this connection, to enter into a discussion of Kant's doctrine of *a priori* forms and principles; and yet a word on this subject is necessary to show that, in the ultimate analysis of the mental machine, the terms *domestic* and *foreign* are seen to be equally applicable to either the mechanical or the teleological principle. We must recognize the fact that with Kant *a priori* is not a psychological, but a purely epistemological signification; it means not a chronological priority to experience, but a logical priority; it means a universality and necessary validity in the principles of reason which really transcends all experience, and is not capable of being proved by any experience. Not to recognize this from the beginning would mean ultimate failure in our efforts to understand Kant. But if we carry our psychological analysis of the mental machine back of the individual (something which Kant did not do) we will see that the *a priori* forms and categories with which the individual is born and with which he begins his mental experience and by which his experience is determined, are all the result of the racial experience of his progenitors. The individual perceives all things in space and time, and hanging together by the string of cause and effect, because the race has never experienced them in any other way. The fact that the individual now determines his experience by these categories is because the experience of the race was determined that way before him. In other words, what the individual now gives to objects of his experience the race before him received from objects. The *a priori* forms and principles by means of which the individual's experience is determined are borrowed from the experience of the race. That which is an *a priori* and *domestic*

principle in the individual was an *a posteriori* principle with the race before him. We might say that it is a *foreign* or *racial* principle which has become *naturalized*, or *individualized*. The *a priori* neural synthesis with which each individual is born and which determines his experience is the result of a racial experience. According to the ultimate analysis of the mental machine the idea of design is not more foreign to the understanding than mechanism, for when the reflective judgment borrows the idea of design from reason it borrows a principle of which both the race and the individual have had actual experience. In the ultimate psychological analysis both principles are equally *domestic*, for both are part and parcel of the mental machine as it now exists; and both are equally *foreign*, for both are ultimately borrowed from the experience of the race. Both principles contain an undetermined and undeterminable x which represents our intellectual limitations sufficiently clear to keep any honest man modest in his scientific and philosophic pretensions.

The understanding knows two and only two principles of causation, and these are mechanism, which proceeds in a linear series from cause to effect, and from the parts to the whole; and causation according to an intelligence, which adapts means to an end set by reason. Both principles are equally necessary and valid for our philosophic investigations of nature and her products. How the two principles are ultimately related in the creation and evolution of the universe, and whether or not they coalesce in an Archetypal Understanding we cannot know. But that there are these two types of causation of which we can have actual experience and knowledge we do know; and neither one nor the other may be disregarded in an effort to investigate the whole of nature.

One reason why Kant is so reluctant to grant determinant value to teleology is the supposed finality and completeness of the table of categories in the *Critique of Pure Reason*. He could not admit a new category without disturbing the table already established and, what is more, at the same time necessitating the

reconstruction of his theory of knowledge. But the objective validity of the teleological principle can be justified by an appeal to the principle which Kant himself employed as guide in the deduction of the categories. In the *Critique of Pure Reason* he says on this particular point: "It is really a sufficient deduction of the categories and a justification of their objective validity if we succeed in proving that by them alone an object can be thought." According to this principle of deduction the validity of a category is justified if it can be shown that it is necessarily required and presupposed in our actual experience. Now if it is true, as Kant claims, that the mechanical explanation of the world leaves our knowledge incomplete; and if it is true that we cannot fully understand nature until we have an insight into its meaning and purpose, i. e., until we study it by the help of the idea of design, then what reason have we for denying this principle the objective validity that we claim for mechanism? Our experience, as Kant claims, can never be a *real unity* apart from this idea of design. It is necessary to satisfy our demand for complete explanation, and to make the world fully intelligible to ourselves; and this being the case the principle of teleology is proved, or justified, in exactly the same way as the categories of pure reason.

It was pointed out in our Exposition that Kant applies the idea of design also to *collective nature*. He led up to this conclusion by a quite different path from that which led to the application of design to objects of beauty and life. This way had already been travelled over in the *Critique of Practical Reason*. There he had come to the conception of a *highest good*, viz., virtue, or subjective worthiness to be happy, which every man is bound to seek to realize; and also a *complete good*, or happiness in proportion to our worthiness to be happy, which every man is entitled to postulate as possible of realization. But this realization involves a conformity of nature to the law of reason which, however, nothing in the conception or experience of nature herself enables us to anticipate. This means that nature must ultimately be thought of as a teleological system for

which the final end is determined by the same practical reason which determines the end of human conduct. This same argument is again worked over in the Critique of Judgment. The realization of this *complete good*, or happiness in proportion to our worthiness to be happy, is possible only through the mediation of God. There is a moral necessity, therefore, for assuming God, for if there is no God we can find no adequate encouragement for the hope that this highest end which reason unconditionally enjoins upon us (and that this *complete good* which is the innate right of every man) can ever be realized. But to this argument he adds the all-important proviso that we must not make our morality depend upon our theology, for it rests solely upon its own unconditioned necessity; and that we must not ascribe objective reality to the concept of a Supreme Being which we are obliged to assume for purely practical reasons, but to which no possible experience can correspond.

Kant is unquestionably right when he vigorously protests against making our morality depend upon our theology. If a man should, because of any weakness in the speculative arguments, or because of any irregularities in the course of nature, cease to believe in God, he may not, on this account, also cease to be moral. If he should he would be a contemptible creature. And he is also right in his earnest contention for the worthiness of faith in God and the future life, and for the pragmatic value of such an attitude of mind. Without such faith our best moral efforts must appear to us as ultimately vain.

But when Kant absolutely denies us all access to and knowledge of what he calls noumenon in general, and in particular of this Supreme Being whom we must assume for the sake of our morality, we must dispute the ground on which he does it. He does this on the epistemological ground established in the first Critique. In the Transcendental Analytic and Dialectic he drew a sharp line of demarcation between the phenomenal and the noumenal. There is a phenomenal world which appears to our

sensibility, and of this we have experience and knowledge. But the noumenal world, which must be thought as the ground and ultimate cause of the phenomenal world does not appear to our sensibility, and of this we can have no experience and no knowledge. The only ground of the possibility of the objective existence of this Supreme Being whom we must think for the sake of morality is the fact that it can be thought without a contradiction, but this does not guarantee its actual existence, and much less its synthetic predicates.

Kant is no doubt right that our knowledge is limited to phenomena. We can know only what appears, in some way, to the senses. Our knowledge is limited, in one sense, to what our mind is able to make out of the forty-five or fifty thousand sensations, or ultimate elements of consciousness. But if the noumenon is the ground of the phenomenon then a noumenon at rest behind the phenomenon is a misconception. If the noumenon is the ground of the phenomenon, then obviously there is something of the noumenon given in the phenomenon, and in our knowledge of the phenomenon we have some knowledge of the noumenon. Every phenomenon is a manifestation of some noumenon, and through its manifestations we have some knowledge of the noumenon itself. It is true that the most painstaking psychological analysis cannot lay bare to our gaze a noumenal mind-stuff, or entity, but only a number of mental processes. Scientifically we cannot define mind as anything other than the sum of these processes. But that there can be no mental processes without something in which these processes inhere is an *a priori* certainty; and that we have some knowledge of this ultimate something through its manifestations needs no elucidation. The noumenon, whether in the case of a tree, or our own souls, or the Supreme Being himself, is the sum-total of its sensible manifestations *plus something more*; and it is only this *something more* that really evades us. But there is no valid epistemological ground to deny us all access to it. The better we get to know the phenomena of a thing the nearer we approach the thing as it is in itself. There will no doubt al-

ways remain enough of an x , whether we contemplate a blade of grass or the Supreme Being, to pluck our mental wing-feathers and prevent the flights of speculative fancy.

But in the case of the Supreme Being Kant denies us all access, not only on the ground that it does not appear to our sensibility and so cannot become an object of any possible experience, but also on the ground that the Infinite, which we are obliged to think, is absolutely different in kind from the finite so that we cannot even reason from that which we know of our own minds to that which we must think in the case of the Divine mind. His refutation of the argument from analogy proceeds on this assumption. We can infer the mind of our neighbor from his behavior because our neighbor and we belong to the same class of beings. We can infer (Kant would admit) that animals, in their building operations, etc., use their minds in some way analogous to the use we make of our own minds, because the animal must be considered as belonging to the class of finite beings, and in this respect to the same class as man. But this argument from analogy, Kant claims, may not be applied to the Supersensible. We cannot infer the mind of God as cause of nature from anything we see or know in the world of sense. He denies us the right to do this because the Supersensible is absolutely different in kind from anything we can experience or know. If this would be true there could be no refutation of Kant's argument. But he has not proved his assumption. The Divine Mind, or the Intuitive Understanding of which he speaks so much, and which he says we *must* think as cause of nature, is infinitely different in the degree of its insight and foresight from our finite and discursive understanding, but it does not necessarily follow from this that it is absolutely different in kind from our own minds. Our minds are, in the main, discursive, but are not altogether limited to this particular mode of operation. In the transpiration of an event in time, for example, we perceive the particular acts which make up the event only progressively in a linear series, i. e., moment by moment. Our perception proceeds in a purely discursive fashion. Or in the solu-

tion of an ordinary problem in arithmetic we proceed step by step in the solution and see the conclusion only after the several steps in the solution have been taken. This is a type of discursive reasoning. But in those propositions in mathematics which we call axioms we foresee the conclusion in the statement of the proposition. In this case we foresee the end or the conclusion of the process without taking the necessary steps in the process of solution. In this latter case our understanding is of the intuitive type. It would be absurd to say that we are employing two absolutely different minds in these two distinctively different mental processes. In this latter case we foresee the conclusion in the statement of the proposition because we ourselves, by the very nature and constitution of our understanding, have given the law to the problem in question. And it is just this thing which the Intuitive Understanding of which Kant speaks does. It foresees the end of a process to which it itself has given the law before the progressive steps in the process have been taken. There is therefore no valid ground why we may not reason by analogy from what we know of our own minds to the Divine Mind which we must think as the basis of nature and her products.

That the Supersensible as *it is in itself* does not appear to us through any sensible manifestations is not more true of the Divine Mind than it is of the finite mind of our neighbor. His mind as a Kantian *thing-in-itself* is just as unknowable an *x* as is the Divine Mind. We judge of his behavior as action according to ideas of reason because of certain sensible manifestations. We have absolutely nothing else by means of which to judge. We do this and only this when we judge of the Divine Mind as cause of the phenomena of nature because of certain sensible appearances which bear the trade-marks of mind. *If* there are products of nature, as Kant claims, which cannot be explained by mere mechanical laws; and *if* there is, as he further contends, a specification of nature in the origin and maintenance of the species which cannot be explained on any other



ground than that of adaptation according to design, then we have a valid reason, based on sound epistemological grounds, for our belief in Mind as the ultimate cause of nature and her products. That there should be greater difficulty experienced in understanding the Intelligence which we must think as cause of nature than there is in the case of the intelligence which must be thought as the cause of our neighbor's behavior, or the behavior of animals, is evident because of the vast difference in the manifold particulars of the manifestations, and still more because of the infinite degree of the difference in the intelligence manifested. But the still-remaining similarity between the two will enable us to reason by analogy from the one to the other even in spite of this specific dissimilarity.

I have the sincerest respect for the type of pragmatism which has its root in Kant's second Critique. It steers clear of that cheap scepticism which had its source in his first Critique. But his pragmatism leaves unsatisfied a legitimate need of thought and life. Even for the sake of morality we need a more substantial God than the mere postulation of an idea which is supposed to encourage us in our efforts to live up to the dictates of the moral imperative, or which shall give us the victory over an indifferent world. Even as a mere matter of faith from a pure practical point of view a thing must, in some way, approve itself to the understanding as valid doctrine. An idea of reason with which we fool our understanding can, to say the least, never serve as a strong motive to conduct. In this last great work of his Kant blazed the way in the right direction but, because of the limitations set for himself in his previous works, failed to follow some of his important assumptions to their legitimate conclusions.

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